

WHAT IS CLAIMED IS:

1. A method of providing error detection and correction of transmission of data units between a sending and a receiving agent connected together in a network or computer interconnect environment, the data units having a predetermined size, a control portion and an information portion, the method comprising:

inserting an expected sequence identifier in each data unit;  
examining the sequence identifiers of the data units to determine the sequence of data units being received by the receiving agent; and,  
requesting the sending agent to resend a data unit for which it is determined that the sequence identifier is incorrect.

2. A method as defined in claim 1 wherein said predetermined size is within the range of about 64 to about 256 bits.

3. A method as defined in claim 2 wherein said predetermined size is about 128 bits.

4. A method as defined in claim 1 wherein said sequence identifier is a number that is changed in a predictable manner for each successive unit.

5. A method as defined in claim 1 wherein said number incremented by a known value for each successive unit.

6. A method as defined in claim 1 wherein said sequence identifier is inserted in the control portion of the data unit.

7. A method as defined in claim 1 further comprising retaining a replica of each data unit for a period of time necessary for said examining step to determine that the sequence identifier for a transmitted data unit is correct and discarding said replica when said sequence identifier for the transmitted data unit is correct.

8. A method of providing error detection and correction of transmission of data packets comprising at least two flits between sending and receiving agents

connected together in a network or computer interconnect environment, the flits being of a predetermined size and having a control portion and an information portion, the method comprising:

- embedding a sequence identifier in each flit prior to transmission by a sending agent;
- sending each flit to a connected receiving agent;
- examining the sequence identifiers of each flit to determine the sequence of flits being received by the receiving agent; and,
- requesting the sending agent to resend a flit for which the sequence identifier is determined to be incorrect.

9. A method as defined in claim 8 further comprising the step of holding a copy of each flit for a period of time necessary for said examining step to determine that the sequence identifier for a transmitted flit is correct and discarding said copy when said sequence identifier for the transmitted flit is correct.

10. A method as defined in claim 8 wherein said predetermined size is within the range of about 64 to about 256 bits.

11. A method as defined in claim 10 wherein said predetermined size is about 128 bits.

12. A method as defined in claim 8 wherein said sequence identifier is a number that is changed in a predictable manner for each successive unit.

13. A method as defined in claim 8 wherein said number incremented by a known value for each successive unit.

14. A method for providing error detection and correction of transmission of data units between sending and receiving agents connected in a network

3 or computer interconnect environment, the data units being of a predetermined size and  
4 having a control portion and an information portion, the method comprising:  
5 the sending agent inserting a sequence identifier in each data unit;  
6 the sending agent sending the data unit to the receiving unit;  
7 the sending agent retaining a replica of the data unit in a memory;  
8 the receiving agent examining the sequence identifiers of each data unit to  
9 determine the sequence of data units being received by the receiving agent;  
10 the receiving agent requesting the sending agent to resend a data unit for  
11 which the receiving agent determined the sequence identifier to be incorrect.

12 15. A method as defined in claim 14 wherein said sequence identifier is  
1 inserted in the control portion of the data unit.

2 16. A method as defined in claim 14 wherein said predetermined size is  
3 about 128 bits.

4 17. A system for providing error detection and correction of  
5 transmission of data units in a network or computer interconnect environment, the data  
6 units being of a predetermined size and having a control portion and an information  
7 portion, the system comprising:

8 a sending agent for inserting a sequence identifier in each data unit to be  
9 sent, the sending agent retaining a replica of the data unit in a memory;

10 said sending agent sending the data unit to the receiving unit;

11 a receiving agent for receiving each data unit, the receiving unit examining  
12 the sequence identifiers of each data unit to determine the sequence of data units being  
received thereby;

said receiving agent requesting said sending agent to resend a data unit for  
which said receiving agent has determined the sequence identifier to be incorrect.

- 1                    18.    A system as defined in claim 17 wherein said predetermined size is  
2    about 128 bits.
- 1                    19.    A system as defined in claim 17 wherein said sequence identifier is  
2    inserted in the control portion of the data unit.

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